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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,308	11/28/2001	Johan Loccaffer	27500-11	2519
7590 10/31/2003				
Joseph T. Guy Ph.D. Nexsen Pruet Jacobs & Pollard LLP 201 W. McBee Avenue Greenville, SC 29603			EXAMINER FLETCHER III, WILLIAM P	
			ART UNIT 1762	PAPER NUMBER

DATE MAILED: 10/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/996,108	LOCCUFIER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	William P. Fletcher III	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input checked="" type="checkbox"/> Other: <i>definition of "ink"</i>    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 1 – 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 1, 11, and 12 have been amended to recite “printing droplets of a fluid onto a hydrophilic surface.” The originally-filed disclosure does not support *any and all* hydrophilic supports, disclosing, at p. 15 of the spec., only *cross-linked* hydrophilic supports. Possession of a species does not support possession of a genus.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**4. Claims 21 and 24 – 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Kato (US 6,098,545 A).**

Kato teaches a method for the preparation of a lithographic printing plate [claim 1; c. 51, l. 31]. The method comprises dispensing information-wise, by means of ink-jet printing, droplets of a fluid onto the surface of a lithographic receiver [c. 31, ll. 1 – 13; claim 1; and c. 51, ll. 21 – 24 and ll. 30 – 32]. The surface of the lithographic receiver is metallic, specifically aluminum (Al) [c. 27, ll. 38 – 45]. The fluid contains an oleophilizing compound, that is a stable colloidal dispersion, having in its chemical structure an amidine functional group capable of reacting with the surface of the lithographic receiver [c. 6, ll. 28 – 49; c. 13, l. 15; and c. 15, l. 50]. In particular, the amidine group serves to link the two components (I and II) of the macromonomer (MA) together. Components I and II, illustrated at c. 3, l. 30 and c. 4, l. 25, respectively, correspond to applicant's groups R3 and R4.

Note: A "fluid" is defined as "a substance (as a liquid or gas) tending to flow or conform to the outline of its container."<sup>1</sup> Based on this definition, it is the examiner's position that the liquid dispersion of resin particles satisfies applicant's limitation requiring a fluid.

Note: The examiner has interpreted "oleophilizing" as "rendering oleophilic." The examiner has interpreted "oleophilic" according to its common, art-recognized and art-specific definition: "receptive to printing inks."<sup>2</sup> Therefore, the examiner has interpreted "oleophilizing" as "rendering receptive to printing inks." Since the resin deposited by the ink-jet is ink receptive in a lithographic printing process, it is the examiner's position that the resin is oleophilizing [see, for example, c. 31, ll. 47 – 54].

<sup>1</sup> *Merriam-Webster's Collegiate Dictionary, 10<sup>th</sup> Ed.*, © 1998 by Merriam-Webster, Inc., p. 449. Copy attached to action mailed 06/04/03.

<sup>2</sup> See, for example, c. 1, ll. 10 – 20 of US 3,131,630 A. Copy attached to action mailed 06/04/03.

Note: Insofar as the oleophilizing compound remains on the surface of the lithographic receiver and forms an ink-receptive image, it is the examiner's position that the oleophilizing compound as a whole, as well as any functional groups it may contain, is/are capable of reacting with the surface of the lithographic receiver.

With respect to claim 28, insofar as the fluid is used to print a pattern on the receiver, this fluid reads on an "ink."<sup>3</sup>

With respect to claims 24, 25, 29, and 30, Kato teaches that the amidine group is a heterocyclic amidine group, specifically an imidazoline group [c. 13, l. 15 and c. 15, l. 50].

With respect to claims 26 and 31, Kato teaches that the oleophilizing compound is present in said fluid in an amount ranging from 0.1% to 20% by weight [c. 17, l. 41].

With respect to claim 27 and 32, Kato teaches that the fluid further contains a colorant [c. 23, ll. 25 – 30].

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**7. Claims 1 – 4, 6 – 15, and 17 – 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leenders et al. (US 5,501,150 A) in view of Boston (US 4,223,087 A).**

Leenders teaches a method for the preparation of a lithographic printing plate. The method comprises forming a silver image on a lithographic receiver, followed by oleophilizing the silver image by applying a compound that both oxidizes and fixes the silver image [abstract and c. 8, l. 58 – c. 9, l. 22]. The lithographic receiver may either be a grained and anodized aluminum plate (i.e., a metallic support) or a support with a hydrophilic receiving layer thereon containing SiO<sub>2</sub> or TiO<sub>2</sub> therein [c. 9, l. 34 – c. 10, l. 60 and c. 10, l. 61 – c. 11, l. 40]. The lithographic oxidizer/fixer imparts a strong hydrophobic (i.e., oleophilic) character to the oxidized silver image, and is applied image-wise by means of ink-jet printing [c. 8, l. 58 – c. 9, l. 22].

While Leenders teaches that the lithographic oxidizer/fixer comprises organic compounds with groups including HS-C=N and S=C-NH, the reference does not, explicitly, teach the amidine group-containing compounds recited in claims 1, 11, and 12.

Boston teaches a method for the preparation of a lithographic printing plate very similar to that of Leenders. The method comprises forming a silver image on a lithographic receiver, followed by oleophilizing the silver image by applying a compound that both oxidizes and fixes the silver image [abstract and c. 3, l. 22 – c. 4, l. 64]. The lithographic receiver is a support with

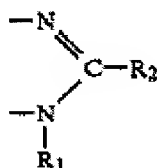
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<sup>3</sup> Merriam-Webster's Collegiate Dictionary, 10<sup>th</sup> Ed., © 1998 by Merriam-Webster, Inc., p. 602. A copy is attached.

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a hydrophilic receiving layer thereon [see Examples]. The oxidizer/fixer comprises a salt solution of a ferricyanide anion and organic cation complexing agent [c. 3, l. 22 – c. 4, l. 66]. The ferricyanide anion serves to oxidize the silver image while the organic cation forms a water-insoluble, oleophilic complex with the oxidized silver image. Examples of the cation include cyclic and acyclic amidines defined at c. 4, ll. 29 – 66 as:

Examples of nitrogen-substituted hydrocarbon compounds include cyclic and acyclic amidines, i.e., compounds having the formal chemical grouping:



wherein R<sub>1</sub> and R<sub>2</sub> may be hydrogen, hydrocarbons, or nitrogen-substituted hydrocarbons in any of the classes, alkyl, aryl, or aralkyl, and where cyclic or ring-structured amidines are completed by hydrocarbon groups to provide 5- or 6-membered ring structures. Exemplary acyclic amidines include acetamidine, benzamidine, guanidine and biguanide. Typical cyclic amidines include 2-propyl-2-imidazoline, 2-pentyl-2-imidazoline, 2-benzyl-2-imidazoline and naphthazoline.

Further examples of suitable complexing agents include aromatic nitrogen-substituted heterocyclic aromatic compounds, such as 5- and 6- membered cyclic or bicyclic compounds containing one or more nitrogen atoms therein, including mono-substituted or poly-substituted hydrocarbon or nitrogen functional hydrocarbon derivatives thereof. Exemplary aromatic heterocyclic compounds include 2-methylimidazole, 1-benzylimidazole, 1-butylimidazole, 2-undecylimidazole, 2,2'-dipyridylamine, 2,4-lutidine, pyridine, and N-aminopyridine. Bicyclic compounds include benzimidazole, 2-methylbenzimidazole, 1-ethyl-2-methylbenzimidazole.

The aromatic nitrogen heterocyclic compounds should all contain at least one nitrogen atom in the parent ring structure which is sterically unhindered, so as to be capable of coordination to a silver ion, i.e., capable of forming a chemical bond therewith.

R1 and R2 in Boston are analogous to applicant's R3 and R4, respectively. With respect to claim 11, it is the examiner's position that this teaching reads on several of the compounds recited in this claim. See, for example, the last compound on p. 7 of paper no. 10. Here, R3 is



nitrogen-substituted hydrocarbon and R4 is a hydrocarbon. With respect to claim 12, it is the examiner's position that this teaching reads on compounds where R3 and R4 are aryl.

To summarize: Leenders teaches a method of manufacturing a printing plate in which an oxidizing/fixing solution is applied, image-wise, via ink-jet printing to a silver image. This oxidizing/fixing solution contains both hexacyanoferrate(III) ions and organic compounds containing NH-groups. Boston teaches a similar method in which an oxidizing/fixing solution is specified to include  $[\text{Fe}(\text{CN})_6]^{3-}$  ions and an amidine compound as recited in applicant's claims. Since both references disclose utilizing the oxidizing/fixing solutions in the same fashion to the same end, it would have been obvious to one of ordinary skill in the art to modify the method of Leenders so as to apply, image-wise via ink-jet printing, as the oxidizing/fixing solution, the oxidizing/fixing solution of Boston. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of successfully rendering the lithographic printing plate oleophilic.

With respect to independent claims 1, 11, and 12, the silver image-coated support reads on applicant's claimed hydrophilic support. Since the oxidizing/fixing solution is applied to the silver image to render it oleophilic the silver image must, necessarily, be hydrophilic prior to said oxidizing/fixing.

With respect to independent claim 1, the oxidizing/fixing solution (which reads on applicant's "fluid") has dissolved therein the amidine-containing organic cation (which reads on applicant's "oleophilizing compound"). The examples of this cation described in the passage above are clearly inclusive of cations with a single amidine group.

With respect to new independent claim 21, the language of this claim is broad enough to include the fluid's being *directly* and *indirectly* dispensed on the surface of the support. In other words, "onto a surface of a metallic support" is inclusive of dispensing the oxidizing/fixing solution onto the silver-image coated, grained and anodized aluminum support. Consequently, Leenders in view of Boston teaches this limitation as well. The examiner further notes that the silver coating itself is also considered to read on "the surface of a metallic support."

With respect to new independent claim 28, as noted above, insofar as the fluid is used to print a pattern on the receiver, this fluid reads on an "ink."

With respect to claims 4, 15, 26, and 31, Boston teaches a specific example in which the amidine-containing compound is added in an amount of approximately 17 % by weight based on the total solids content of the oxidizing/fixing solution [c. 6, ll. 30 – 40]. It is, however, the examiner's position that the amount of fixing cation in the solution is a result-effective variable determining the resulting oleophilicity of the plate. Absent clear and convincing evidence demonstrating the criticality of the claimed wt.-% range, it would have been obvious to one of ordinary skill in the art to optimize such a result-effective variable in the method of Leenders in view of Boston by routine experimentation. [See MPEP § 2144.05(II)(A): Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. See also MPEP § 716.01(c): the arguments of counsel cannot take the place of evidence in the record. Examples of attorney statements which

are not evidence and which must be supported by an appropriate affidavit or declaration include statements regarding unexpected results.]

With respect to claims 6, 7, 17, 18, and 23, the language of these claim is broad enough to include the fluid's being *directly* and *indirectly* dispensed on the surface of the support. In other words, "onto a surface of a metallic support" is inclusive of dispensing the oxidizing/fixing solution onto the silver-image coated, grained and anodized aluminum support. Consequently, Leenders in view of Boston teaches this limitation as well. The examiner further notes that the silver coating itself is also considered to read on "the surface of a metallic support," because silver is a metal. With respect to claim 22, it is the examiner's position that the grained and anodized aluminum support reads on applicant's claimed "oxidized" support. The examiner notes that applicants disclose such a support as reading on an "oxidized" support at p. 15 of the sub. spec. filed 12/16/02.

With respect to claims 9, 10, and 20, it is the examiner's position that  $\text{SiO}_2$  and  $\text{TiO}_2$  read on inorganic pigments.

With respect to claims 8 and 19, it is the examiner's position that the binders taught by Leenders, at c. 11, ll. 3 – 34, read on cross-linked or cross-linkable binders.

***Allowable Subject Matter***

8. Claims 5 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: Neither Leenders nor Breton teach or suggest an oxidizing/fixing solution that contains a colorant.

*Response to Arguments*

10. Applicant's arguments, see the response, filed 09/04/03, with respect to:

- (a) the rejections of claims 1 – 10 under 35 U.S.C. 112, 1<sup>st</sup> Paragraph
- (b) the rejections of claims 4 and 15 under 35 U.S.C. 112, 2<sup>nd</sup> Paragraph
- (c) the rejections of claims 1 – 6 and 12 – 17 under 35 U.S.C. 102(e)
- (d) the rejections of claims 1 – 10, 12, 13, and 15 – 20 under 35 U.S.C. 103(a),

as set-forth in the Office action mailed 06/04/03, have been fully considered and are persuasive.

The rejections of these claims have been withdrawn.

With respect to (c), since the overall oleophilizing agent is a polymer comprising, as monomer components A, MA, and P, it is the examiner's position that the fair teaching of this reference is that the oleophilizing agent will contain more than one MA molecule in its structure. Consequently, this does not read on a single functional amidine group. It is noted, however, that Kato reads on the newly submitted claims because these claims do not recite this limitation.

With respect to (d), there is no suggestion in either Zerillo or Breton of a homogeneous solution or colloidal dispersion of the oleophilizing agent.

11. Applicant's arguments filed in the response of 09/04/03, and with respect to Leenders and Boston, have been fully considered but they are not persuasive.

Applicant has argued that one of ordinary skill in the art would not have combined these references "due to the expected conflict between a stabilized silver complex and the desire to

image-wise reduce the same silver complex." The examiner notes that reduction to silver and oxidation/fixation are performed in *two separate steps*. Since one of ordinary skill in the art would not be performing both steps at the same place at the same time, there would be no conflict and no impermissible hindsight necessary to arrive at motivation to combine these references.

Further, applicant has argued that at least one of the three ingredients has to be on the hydrophilic surface prior to the information-wise projection of droplets. Applicant contends that such an arrangement is contradictory to applicant's method in which "the oleophilizing compound reacts directly with the surface of the lithographic receiver." The examiner notes that applicant's first point is refuted at c. 3, ll. 23 – 30 of Leenders:

**By the step "bringing into working relationship" is meant that when the droplets touch the image receiving material the ingredients (A), (B) and (C) are brought together so as to form a silver image by physical development. In this physical development a silver image is formed by means of dissolved silver ions that become reduced by a reducing agent in an oxidation-reduction reaction through catalytic action of physical development nuclei.**

This definition does not require that any particular component be initially present on the surface. While Leenders does state that the physical development nuclei (C) may be present on the support, such an arrangement is merely *preferred*, not required. Further, since this "brining into working relationship" has to do with the formation of the silver image and not the application of the oleophilizing agent, it has nothing to do with the combination of record. Applicant's latter point is not commensurate in scope with the claims as the oleophilizing compound is required to be *capable* of reacting with the surface. The exact nature and extent of this reaction is not

disclosed. This issue has been clearly addressed in the text of all rejections since the first Office action, is included in the rejections above, and has not yet been directly traversed by applicant.

Lastly, applicant has argued that the two-step process of Leenders in view of Boston does not read on applicant's claims which involve "an ink-jet process in which the oleophilizing compound is present in the ink itself." This argument is not commensurate in scope with the claims because the claims recite "dispensing...a fluid." The claims are open (i.e., "said method comprising") to other steps in the process of preparing the printing plate. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Additionally, the language of these claim is broad enough to include the fluid's being *directly* and *indirectly* dispensed on the surface of the support. In other words, "onto a surface of a metallic support" is inclusive of dispensing the oxidizing/fixing solution onto the silver-image coated, grained and anodized aluminum support. Consequently, Leenders in view of Boston teaches this limitation as well. The examiner further notes that the silver coating itself is also considered to read on "the surface of a metallic support," because silver is a metal.

#### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (703) 308-7956. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*WPF 10/27/03*  
William P. Fletcher III  
Examiner  
Art Unit 1762

  
SHRIVE P. BECK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

Final Rejection